

Appendix B

BURNING OIL FUEL—The requirements for the successful burning of oil fuel and the methods of meeting such requirements may be summarized as follows:

1st. The atomization of the oil must be thorough, this requirement being met by the selection of the proper type of burner.

2nd. When atomized, the oil must be brought into contact with a sufficient amount of air for combustion in a manner that assures a thorough mixture of oil and air, and at the same time the amount of air so supplied must be kept at a minimum. Proper methods of introducing air into the furnace and means of controlling this air enable this requirement to be met.

3rd. The furnace must be of such form as to maintain the temperatures essential for high efficiency, and built of a grade of refractory material that will stand up under high temperatures. Further, the form must be such as to assure complete

combustion of the gases before they strike the boiler heating surfaces. This requirement is met by providing ample combustion space and length for flame travel.

4th. The burners must be so located relative to the boiler surfaces and must be so operated that there will be no localization of heat on certain portions of the surfaces or trouble from overheating and blistering will result.

Oil BURNERS—Oil burners in use today are of two general classes, steam and mechanical atomizing burners, though a third class, having certain characteristics of both, has been recently developed.